



1 743/JP

Express Mail No.: EV 666039207 US

---

IN THE UNITED STATES PATENT  
AND TRADEMARK OFFICE

---

Application Number: 10/524,793  
371(c) Date: October 20, 2005  
Applicants: Kenneth M. Evans  
Title: High Resolution Flow Cytometer  
TC/A.U: 1797  
Examiner: Rebecca Fritchman  
Attorney Docket: XY-Hypodermic-USNP  
Customer No. 33549

---

**LETTER OF TRANSMITTAL**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Enclosed with this correspondence are the following documents:

1. Information Disclosure Statement pursuant to 37 CFR §1.97(b)(3) and copies of Foreign References and Other Documents cited;
2. This Letter of Transmittal; and
3. A Certificate of Express Mailing for each document and a return receipt post card.

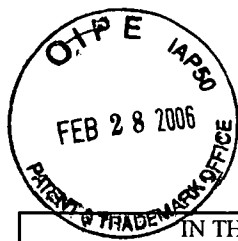
I have this 28 day of February, 2006, either myself personally or through my direction of staff at this office, deposited all of the items in the above letter of transmittal with the United States Postal Service as Express Mail, postage prepaid, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

Please confirm receipt of the documents by applying your date stamp on the enclosed postcard and returning it to me.

Dated this 28 day of February, 2006.

Respectfully Submitted,  
SANTANGELO LAW OFFICES, P.C.

By: Nicole A. Ressue  
Nicole A. Ressue  
Attorney for Assignee  
PTO No. 48,665  
125 South Howes, Third Floor  
Fort Collins, Colorado 80521  
(970) 224-3100



Express Mail No. EV 666039207 US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT	APPLICATION NO:	10/524,793
	FILING DATE:	10/20/2005
	FIRST NAMED	Kenneth M. Evans
	ART UNIT:	1797
	EXAMINER NAME:	Rebecca Fritchman
	DOCKET NO:	XY-Hypodermic-USNP

# I. US PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO. & KIND CODE (if known)	PATENTEE OR APPLICANT	PUBLICATION/ISSUE DATE mm/dd/yyyy	Pages, Columns, Lines Where Relevant Passages Or Relevant Drawings Appear
H.F.	3,299,354	Hogg	12/17/1967	
	3,499,435	Rockwell et al.	3/10/1970	
	3,547,526	Devereux	12/15/1970	
	3,644,128	Lipner	2/22/1972	
	3,661,460	Elking et al.	5/9/1972	
	3,710,933	Fulwyler et al.	1/16/1973	
	3,761,941	Robertson	9/25/1973	
	3,810,010	Thom	5/7/1974	
	3,826,364	Bonner et al.	7/30/1974	
	3,833,796	Fetner et al.	11/3/1974	
	3,877,430	Wieder	4/15/1975	
	3,893,766	Hogg	7/8/1975	
	3,909,744	Wisner et al.	9/30/1975	
	3,947,093	Goshima et al.	3/30/1976	
	3,960,449	Carleton et al.	7/1/1976	
	3,963,606	Hogg	6/15/1976	
	3,973,003	Colas	8/3/1976	
	3,973,196	Hogg	8/3/1976	
	4,014,611	Simpson et al	3/29/1977	
	4,070,617	Kachel et al.	1/24/1978	
	4,162,282	Fulwyler et al.	7/24/1979	
	4,178,936	Newcomb	12/18/1979	
	4,179,218	Erdmann et al.	12/18/1979	
	4,200,802	Salzman et al.	4/29/1980	
	4,230,558	Fulwyler	10/28/1980	
	4,255,021	Brunsdon	3/10/1981	
	4,267,268	Nelson, Jr.	5/12/1981	
	4,274,408	Nimrod	6/23/1981	
	4,274,740	Eidenschink et al.	6/23/1981	
	4,302,166	Fulwyler et al.	11/24/1981	
	4,317,520	Lombardo et al.	3/2/1982	
	4,318,480	Lombardo et al.	3/9/1982	
	4,318,481	Lombardo et al.	3/9/1982	
	4,318,482	Barry et al.	3/9/1982	
	4,325,483	Lombardo et al.	4/20/1982	
	4,327,177	Shrimpton	4/27/1982	

	4,341,471	Hogg et al.	7/27/1982	
	4,350,410	Minott	9/21/1982	
	4,352,558	Eisert, W.	10/5/1982	
	4,361,400	Gray et al.	11/30/1982	
	4,395,397	Shapiro	7/26/1983	
	4,395,676	Hollinger et al.	7/26/1983	
	4,400,764	Kenyon	8/23/1983	
	4,422,761	Frommer	12/27/1983	
	4,474,875	Shrimpton	10/2/1984	
	4,487,320	Auer	12/11/1984	
	4,498,766	Unterleitner	2/12/1985	
	4,501,366	Thompson	2/26/1985	
	4,515,274	Hollinger et al.	5/7/1985	
	4,523,809	Toboada et al.	6/18/1985	
	4,538,733	Hoffman	11/3/1985	
	4,559,309	Evenson	12/17/1985	
	4,598,408	O'Keefe	7/1/1986	
	4,600,302	Sage, Jr.	7/15/1986	
	4,605,558	Shrimpton	8/12/1986	
	4,631,483	Proni et al.	12/23/1986	
	4,637,691	Uehara et al.	1/20/1987	
	4,654,025	Cassou et al.	3/31/1987	
	4,673,288	Thomas et al.	6/16/1987	
	4,683,195	Mullis et al.	7/28/1987	
	4,683,202	Mullis	7/28/1987	
	4,691,829	Auer	9/8/1987	
	4,702,598	Böhmer	10/27/1987	
	4,714,680	Civin	12/22/1987	
	4,744,090	Freiberg	5/10/1988	
	4,756,427	Gohde. et al.	7/12/1988	
	4,758,729	Monnin	7/19/1988	
	4,764,013	Johnston	08/00/1988	
	4,780,451	Donaldson	10/15/1988	
	4,790,653	North, Jr.	12/13/1988	
	4,794,086	Kasper et al.	1/27/1988	
	4,818,103	Thomas et al.	4/4/1989	
	4,831,385	Archer et al.	5/16/1989	
	4,836,038	Baldwyn	6/6/1989	
	4,845,025	Lary et al.	7/4/1989	
	4,846,785	Cassou	7/11/1989	
	4,877,965	Dandliker, et al.	10/31/1989	
	4,942,305	Sommer	7/17/1990	
	4,959,354	Barbetti	9/25/1990	
	4,965,204	Civin	10/23/1990	
	4,979,093	Laine, et al.	12/18/1990	
	4,980,277	Junilla	12/25/1990	
	4,981,580	Auer	1/1/1991	
	4,983,038	Ohki et al.	1/8/1991	
	4,987,539	Moore et al.	1/22/1991	
	5,005,981	Schulte et al.	4/9/1991	
	5,007,732	Ohki et al.	4/16/1991	
	5,030,002	North, Jr.	7/9/1991	

	5,034,613	Denk et al.	7/23/1991	
	5,055,393	Kwoh et al.	10/8/1991	
	5,079,959	Miyake et al.	1/14/1992	
	5,084,004	Ranoux	01/00/1992	
	5,088,816	Tomioka et al.	2/18/1992	
	5,098,657	Blackford et al.	3/24/1992	
	5,101,978	Marcus	4/7/1992	
	5,127,729	Oetliker et al.	7/7/1992	
	5,132,548	Borden et al.	7/21/1992	
	5,144,224	Larsen	9/1/1992	
	5,150,313	Van den Engh et al.	9/22/1992	
	5,159,397	Kosaka et al.	10/27/1992	
	5,159,403	Kosaka	10/27/1992	
	5,162,306	Donaldson	11/10/1992	
	5,167,926	Kimura et al.	12/1/1992	
	5,180,065	Touge et al.	1/19/1993	
	5,182,617	Yoneyama et al.	1/26/1993	
	5,195,979	Schinkel et al.	12/24/1991	
	5,199,576	Corio et al.	4/6/1993	
	5,215,376	Schulte et al.	6/1/1993	
	5,219,729	Hodgen	06/00/1993	
	5,247,339	Ogino	9/21/1993	
	5,259,593	Orme et al.	11/9/1993	
	5,260,764	Fukuda et al.	11/9/1993	
	5,298,967	Wells	3/29/1994	
	5,315,122	Pinsky et al.	5/24/1994	
	5,359,907	Baker et al.	11/1/1994	
	5,366,888	Fry et al.	11/22/1994	
	5,367,474	Auer, et al.	11/22/1994	
	5,370,842	Miyazaki et al.	12/6/1994	
	5,412,466	Ogino	5/2/1995	
	5,437,987	Ten et al.	8/1/1995	
	5,447,842	Simons	9/5/1995	
	5,452,054	Dewa et al.	9/19/1995	
	5,461,145	Kudo et al.	10/24/1995	
	5,467,189	Kreikebaum et al.	11/14/1995	
	5,471,294	Ogino	11/28/1995	
	5,471,299	Kaye et al.	11/28/1995	
	5,480,774	Hew et al.	1/2/1996	
	5,494,795	Guerry et al.	2/27/1996	
	5,496,272	Chung et al.	3/5/1996	
	5,503,994	Shear et al.	4/2/1996	
	5,523,573	Hanninen, et al.	6/4/1996	
	5,532,155	Ranoux	07/00/1996	
	5,558,998	Hammond et al.	9/24/1996	
	5,578,449	Fr asch et a.	11/26/1996	
	5,596,401	Kusuzawa	1/21/1997	
	5,601,235	Booker et al.	2/11/1997	
	5,601,533	Hancke et al.	2/11/1997	
	5,622,820	Rossi	4/11/1997	

	5,641,457	Vardanega	6/24/1997	
	5,643,796	Van Den Engh et al.	7/1/1997	
	5,650,847	Maltsev et al.	7/22/1997	
	5,663,048	Winkfein et.al.	9/2/1997	
	5,672,880	Kain	9/30/1997	
	5,675,401	Wangler et al.	10/7/1997	
	5,684,575	Steen	11/4/1997	
	5,687,727	Kraus et al.	11/18/1997	
	5,691,133	Critser et al.	11/25/1997	
	5,693,534	Alak et al.	12/00/1997	
	5,707,808	Roslaniec et al.	1/13/1998	
	5,708,868	Ishikawa, Masarori	1/13/1998	
	5,777,732	Hanninen et al.	4/7/1998	
	5,780,230	Li et al.	7/14/1998	
	5,786,560	Tatah et al.	7/28/1998	
	5,793,485	Gourley	8/11/1998	
	5,795,767	Lakowicz et al.	6/2/1998	
	5,796,112	Ichie	8/18/1998	
	5,804,436	Okun et al.	9/8/1998	
	5,815,262	Schrof et al.	8/29/1998	
	5,819,948	Van den Engh	10/13/1998	
	5,824,269	Kosaka et al.	10/20/1998	
	5,835,262	Iketaki et al.	11/10/1998	
	5,868,767	Farley et al.	2/9/1999	
	5,873,254	Arav	02/00/1999	
	5,876,942	Cheng et al.	3/2/1999	
	5,880,457	Tomiyama et al.	3/9/1999	
	5,888,730	Gray et.al.	3/30/1999	
	5,891,734	Gill et al.	04/00/1999	
	5,895,764	Sklar et al.	4/20/1999	
	5,895,922	Ho	4/20/1999	
	5,899,848	Haubrich	5/4/1999	
	5,912,257	Prasad et al.	6/15/1999	
	5,916,144	Prather et al.	6/29/1999	
	5,916,449	Ellwart et al.	6/29/1999	
	5,919,621	Brown	7/6/1999	
	5,985,538	Stachecju	11/00/1999	
	6,002,471	Quake	12/14/1999	
	6,050,935	Ranoux et al.	04/00/2000	
	6,087,352	Trout	7/11/2000	
	6,117,068	Gourley et al.	9/12/2000	
	6,119,465	Mullens et al.	9/19/2000	
	6,133,044	Van den Engh	10/17/2000	
	6,140,121	Ellington et al.	10/00/2000	
	6,153,373	Benjamin et al.	11/28/2000	
	6,154,276	Mariella Jr.	11/28/2000	
	6,175,409	Nielsen et al.	1/16/2001	
	6,177,277	Soini	1/23/2001	
	6,238,920	Nagai et al.	5/29/2001	
	6,248,590	Malachowski	6/19/2001	


	6,283,920	Eberle et al.	09/00/2001	
	6,357,307	Buchanan et al.	03/1920/02	
	6,411,835	Modell et al.	6/25/2002	
	6,463,314	Haruna	10/8/2002	
	6,489,092	Benjamin et al.	12/3/2002	
	6,528,802	Karsten et al.	3/4/2003	
	6,534,308	Palsson et al.	3/18/2003	
	6,537,829	Zarling et al.	3/25/2003	
	6,577,387	Ross, III et al.	6/10/2003	
	6,590,911	Spinelli et al.	7/8/2003	
	6,604,435	Buchanan et al.	8/12/2003	
	6,618,679	Loehrlein et al.	9/9/2003	
	6,642,018	Koller et al.	11/4/2003	
	6,667,830	Iketaki et al.	12/23/2003	
	6,671,044	Ortyn et al.	12/30/2003	
	6,673,095	Nordquist	1/6/2004	
	6,704,313	De Resende, A. et al	4/6/1999	
	6,782,768	Buchanan et al.	8/31/2004	
	6,819,411	Sharpe et al.	11/16/2004	
	2002/0113965 A1,	Roche et al.	8/22/2002	
	2002/0119558 A1	Seidel et al.	8/29/2002	
	2002/141902 A1	Asbury et al.	10/3/2002	
	2002/186375 A1	Asbury et al.	12/12/2002	
	2003/0129091 A1	Seidel et al.	1/10/2003	
	2003/0157475 A1	Schenk	8/21/2003	
	2003/0207461 A1	Bell et al.	11/6/2003	
	2003/0209059 A1	Kawano	11/13/2003	
	2003/098421 A1	Ho	11/27/2003	
	2004/0005582 A1	Shipwast	1/8/2004	
	2004/0031071 A1	Morris et al.	2/12/2004	
	2004/0049801 A1	Seidel	3/11/2004	
	2004/0053243 A1	Evans	3/18/2004	
	2004/0055030 A1	Maxwell et al.	3/18/2004	
	2004/0062685 A1	Norton et al.	4/1/2004	
	2004/0096123 A1	Whittier et al.	7/25/2002	
	2004/0132001 A1	Seidel et al.	7/8/2004	
	2005/0003472 A1	Muhammad, A.	1/6/2005	
	2005/0112541 A1	Durack, G.	5/26/2005	
	2005/0214733 A1	Graham, J.A.	9/29/2005	

## II. FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	Foreign Patent Document Country Code, Number, Kind Code (if known)	PATENTEE OR APPLICANT NAME	PUB'N DATE mm- dd-yyyy	TRANSLATION Yes No	
/R.F./	BR 9704313	Alves, E.	6/4/1999		
	DE 195 49 015 C1	GSF - Forschungszentrum	4/3/1997		
	EP 0781985A3	SIEMENS AKTIENGESELLSCH AFT	7/8/1998		
	DE 198 82 943.3	CSURF	2/1/2001		
	DE 69028526	USA represented by Secretary of US Dept. of Commerce, Washington DC US	2/6/1997		
	EP 0538786 A	Serra Piero	04/28/1993		
	EP 0025296A2	Ortho Diagnostic Systems, Inc.	03/18/1981		
	EP 0071538 A1	Cassou Robert	02/09/1983		
	EP 0160201A2	Becton Dickinson & Co.			
	EP 0189702 A1	Cassou Maurice	08/06/86		
	EP 0276166A2	Donaldson, Lloyd E.	7/27/1988		
	EP 0288029B1	Hitachi, LTD	04/20/1988		
	EP 0461618	Becton Dickinson	12/18/1991		
	EP 0468100A1	TOA Medical Electronics Co., LTD	1/29/1992		
	EP 0570102 A1	Ovamed Corporation	3/31/1993		
	EP 1403633 A3	Becton Dickinson and company	4/7/2004		
	EP 1250897 A1	Iberica de Reproduccion Asstida S.L.	10/23/2002		
	EP-A-0 366794	Terumo, K.K.	5/9/1990		
	EP-A-0 478155	Ovamed Corporation	1/28/1998		
	FR 2 647 668 A	Medizin Labortechnik Veb K.	12/7/1990		
	FR 2574656 A1	Cassou Robert et al.	6/20/1986		
	FR 2699678-A1	Union Stes Coop Agricoles	6/24/1994		
	FR-A-2 635453	Laboratoire Ingenor	2/23/1990		
	JP2024535	Canon, Inc.	1/26/1990		
	JP4126064 (A)	Nitto Shokia: K.K.	04/27/1992		
	JP4126065 (A)	Okonogi, Saburo	4/27/1992		
	JP4126066 (A)	P C C Technol: K.K.	4/27/1992		
	JP4126079 (A)	Diawa Kasei K.K.	4/27/1992		
	JP4126080 (A)	Udaka Juzo	4/27/1992		



	JP4126081 (A)	Technol KK	4/27/1992		
	JP61139747 (A)	Canon Inc.	6/27/1986		
	JP61159135 (A)	Canon, Inc.	7/18/1986		
	SU1056008	Stepanov Sergej, (USSR)	11/23/1983		
	SU1260778-A1	TSNI Rentgeno- Radiologicheskij Institute (USSR)	9/30/1986		
	WO 88/07198	Coulter Electronics, Inc.	9/22/1988		
	WO 90/13315 A1	CYTOGAM, INC	11/15/1990		
	WO 96/31764	ALFA LAVAL AGRI AB	10/10/1996		
	WO 98/48259	Fraun-Hofer- Gesellschaft Zur Forderung Derangewandten Forschung E.V.	10/29/1998		
	WO 99/44037 A1	Cytomation, Inc	9/2/1999		
	WO 01/37655 A1	XY INC.	5/31/2001		
	WO 01/40765 A2	XY INC.	6/7/2001		
	WO 01/51612 A1	Istituto Sperimentale Italiano "Lazzaro Spallanzani"	7/19/2001		
	WO 01/85913 A2	XY INC.	11/15/2001		
	WO 01/85913 A3	XY INC.	11/15/2001		
	WO 01/90295 A1	CYTOMATION, INC.	11/29/2001		
	WO 02/19943 A1	UNIVERSITEIT GENT	3/14/2002		
	WO 02/43574 A2	XY INC.	6/6/2002		
	WO 04/009237 A2	XY, Inc.	1/29/2004		
	WO 04/012837 A2	XY, Inc.	2/12/2004		
	WO 04/017041 A2	XY INC.	2/26/2004		
	WO 04/024227 A2	XY, Inc.	3/25/2004		
	WO 04/104178 A2	XY, Inc.	12/2/2004		
	WO 2004/087177 A1	Monsanto Technology LLC	10/14/2004		
	WO 2004/088283 A2	Monsanto Technology LLC	10/14/2004		
	WO 01/40765 A3 (search report)	XY.INC	06/07/2001		
	WO 04/017041 A3 Search Report	XY INC.	2/26/2004		
	WO 04/012837 A3 Search Report	XY, Inc.	2/12/2004		
	WO 04/009237 A3	XY, Inc.	1/29/2004		
	EP 606847 A2	National Institute of Animal Husbandry (JP)	7/20/1994		
	WO 2005/095960 A1	Ludwig, C.	10/13/2005		
	WO 2005/095590 A2	Ludwig, C	10/13/2005		
	WO 2005/094852 A2	Graham, J.	10/13/2005		

	WO 02/41906 A2	Pharmacia Corporation	05/30/2002		
	WO 2004/059282 A2	Nagappan, M.	7/15/2004		
	WO 2004/003697 A2	Monsanto Technology LLC	10/8/2004		
	WO 2004/104178 A3	XY, Inc.	12/2/2004		

### III. OTHER REFERENCES

EXAMINER INITIAL	Document
/R.F./	Abdel-Ghaffar, A. E., et al., "Rabbit Semen Metabolism" in Rabbit Production in Hot Climates" Baselga and Marai (eds); International Conference of Rabbit Production in Hot Climates 1994, p305-312
	Aldrich, S. L., et al., "Parturition and Periparturient Reproductive and Metabolic Hormone Concentration in Prenatally Androgenized Beef Heifers", J. Anim. Sci. 73:3712. (1995)
	Amann, R. P. et al., "Issues Affecting Commercialization of Sexed Sperm" Therio. 52:1441. (1999)
	Amann, R.P. "Fertilizing Potential Vitro of Semen from Young Beef Bulls Containing a High or Low Percentage of Sperm with a Proximal Droplet" Theriogenology 54: 1499-1515, 2000
	Amann, Rupert P. "Cryopreservation of Sperm" 1999, Encyclopedia of Reproduction 1:733-783
	American Meat and Science Association in Cooperation with National Livestock and Meat Board, "Research Guidelines for Cookery and Sensory Evaluation and Instrumental Tenderness Measurements for Fresh Meat". (1995)
	Arriola, J. and Foote, R.H.: "Glycerolation and Thawing Effects on Bull Spermatozoa frozen in Detergent-Treated Egg Yolk and Whole Egg Extenders," J Dairy Sci, 70:1664-1670 (1987)
	Asbury, Charles A. "Fluorescence Spectra of DNA Dyes Measured in a Flow Cytometer," University of Washington 02/19/1996
	Bagley, C. P. "Nutritional Management of Replacement Beef Heifers: a Review" J. Anim. Science 71:3155-3163. (1993)
	Bailey, C. M. et al., "Nulliparous Versus Primiparous Crossbred Females for Beef", J. Anim. Sci. 69:1403. (1991)
	Bakker Schut, Tom C. "A New Principle of Cell Sorting by Using Selective Electroporation in a Modified Flow Cytometry," University of Twente, 03/10/1990.
	Behrman, S. J., et al., "Freeze Preservation of Human Sperm" American Journal of Obstetrics and Gynecology Vol. 103 (5) p. 654-664 March 1, 1969
	Bellows, R. A., et al., "Cause and Effect Relationships Associated With Calving Difficulty and Calf Birth Weight", J. Anim. Sci. 33:407. (1971)
	Berardinelli, J. G., et al., "Source of Progesterone Prior to Puberty in Beef Heifers". J. Anim. Sci. 49:1276. (1979)
	Bergfeld, E. G., et al., "Ovarian Follicular Development in Prepubertal Heifers is Influenced by Level of Dietary Energy Intake", Bio. of Repro. 51:1051. (1994)
	Berry, B. W., et al., "Beef Carcass Maturity Indicators and Palatability Attributes", J. Anim. Sci. 38:507 (1974)
	Beyhan, Z., Et Al., 1999 Sexual Dimorphism In IVM-IVF Bovine Embryos Produced from X and Y Chromosome-Bearing Spermatozoa Sorted By High Speed Flow Cytometry. Theriogenology. 52: 35-48
	BigosBigos, Martin "Nine Color Eleven Parameter Immunophenotyping Using Three Laser Flow Cytometry," Stanford University 12/22/1998.
	Bioxcell, Bovine Sperm Preservation, Advertisement 06/28/2005
	Bond, J., et al., "Growth and Carcass Traits of Open Beef Heifers Versus Beef Heifers That Have Calved", Nutrition Reports International 34:621. 1986
	Boucque, C. V., et al., "Beef-Production With Maiden and Once-Calved Heifers", Livestock Prod. Sci. 7:121. 1980
	Bourdon, R. M. and J. S. Brinks. "Simulated Efficiency of Range Beef -Production III. Culling Strategies and Nontraditional Management-Systems", J. Anim. Sci. 65:963. 1987
	Braun, J. et al, "Effect of Different Protein Supplements on Motility and Plasma Membrane Integrity of Frozen- Thawed Stallion Spermatozoa", Cryobiology (1995) 32:487-492

	Buchanan, B.R. "Pregnancy Rates in Mares Following a Single Insemination with a Low Number of Spermatozoa into the Tip of the Uterine Horn" Theriogenology Page 395
	Burns, P. D. and Spitzer, J.C., "Influence of Biostimulation on Reproduction in Postpartum Beef-Cows", J. Anim. Sci. 70:358. 1992
	Byerley, D. J., et al., "Pregnancy Rates of Beef Heifers Bred Either on Puberal or Third Estrus". J Anim. Sci. 65:645. 1987
	Cave-Penney, Tony, "Sexed Semen Offers Faster Genetic Gain", Farming News, Livestock Supplement, February 1997, p. 28.
	Celestron: Telescope Basics: <a href="http://www.celestron.com/tb-2ref/htm">www.celestron.com/tb-2ref/htm</a> ; 4 pages
	Chen, S.H. "Effects of Oocyte Activation and Treatment of Spermatozoa on Embryonic Development Following Intracytoplasmic Sperm Injection in Cattle" Theriogenology 48: 1265-1273, 1997
	Chen, Y. et al., Survival of Bull Spermatozoa Seeded and Frozen at Different Rates in Egg Yolk-Tris and Whole Milk Extenders, 1993 J Dairy Sci 76:1028-1034
	Choi, Y.H. "Developmental Capacity of Equine Oocytes Matured and Cultured in Equine Trophoblast-Conditioned Media" Theriogenology 56: 320-339, 2001
	Cran, D. G., et al., "The Predetermination of Embryonic Sex Using Flow Cytometrically Separated X and Y Spermatozoa" Human Reproduction Update 1996, Vol. 2 (4) p. 355-63
	Crowley, J. P. "The facts of Once-Bred Heifer Production" School of Agric., Univ. of Aberdeen, Scotland. 1973
	da Silva, Coutinho M.A.. "Effect of time of oocyte collection and site of insemination on oocyte transfer in mares." Animal Reproduction and Biotechnology Laboratory, Colorado State University, Fort Collins Journal of Animal Science 2002. 80:1275-1279
	DakoCytomation, "MoFlo® Sorters" <a href="http://www.dakocytomation.us/prod_productrelatedinformation?url=gprod_moflo_index.htm">http://www.dakocytomation.us/prod_productrelatedinformation?url=gprod_moflo_index.htm</a> one page, printed 06/26/2003
	Database up 1 BR9704313 (Alves, De Resende et al) 06/04/1999
	de LEEUW, F.E. et al:" Effects of various cryoprotective agents and membrane-stabilizing compounds on bull sperm membrane integrity after cooling and freezing" CRYOBIOLOGY US, ACADEMIC PRESS INC 1993 PP. 32-44
	Denham, A. "In-vitro studies on Sandhill Range Forage as Related to Cattle Preference", M.S. Thesis. Colorado State University. 1965
	Denk, Winfried. "Two-Photon Molecular Excitation in Laser-Scanning Microscopy," Handbook of Biological Confocal Microscopy. 1995
	Deutscher, G. H. "Extending Interval From Seventeen to Nineteen Days in the Melengestrol Acetate-Prostaglandin Estrous Synchronization Program for Heifers". The Professional Animal Scientist 16:164. 2000
	Diagnostic Products Corporation, "Coat-A-Count" <a href="http://www.Progesterone.com">http://www.Progesterone.com</a> . 1998.
	Dikeman, M. E. "Cattle Production Systems to Meet Future Consumer Demands" J. Anim. Sci. 59:1631, 1984
	Dippert, K.D. "Fertilization Rates in Superovulated and Spontaneously Ovulating Mares" Theriogenology 41: 1411-1423, 1994
	Doyle, S. P., et al. "Artificial Insemination of Lactating Angus Cows with Sexed Semen". Proc. Western Sect. Am. Soc. Anim. Sci. 50:203. 1999
	Dresser D.W. et al. Analysis of DNA content of Living Spermatozoa Using Flow Cytometry Technique" Journal of Reproduction and Fertility, 1993, vol. 98, pp 357-365
	Ferrell, C. L. "Effects of Post-Weaning Rate of Gain on Onset of Puberty and Productive Performance of Heifers of Different Breeds. J. Anim. Sci. 55:1272. 1982
	Ferrell, C. L. and T. G. Jenkins. "Energy-Utilization by Mature, Nonpregnant, Nonlactating Cows of Different Types" J. Anim. Sci. 58:234. 1984
	Field, R. A., et al., "Bone-Ossification and Carcass Characteristics of Wethers Given Silastic Implants Containing Estradiol", J. Anim. Sci. 68:3663-3668. 1990
	Field, R. et al., "Growth, Carcass, and Tenderness Characteristics of Virgin, Spayed, and Single-Calf Heifers", J. Anim. Sci. 74:2178. 1996



	<p>Foote, et al. Motility and Fertility of Bull Sperm Frozen-Thawed Differently in Egg Yolk and Milk Extenders Containing Detergent, 1987 J Dairy Sci 70:2642-2647</p>
	<p>Foote, R.H., "Buffers and Extenders: What Do They Do? Why Are They Important?" Proc of the NAAB Tech. Conf. On Artificial Insemination and Reproduction, 62-70 (1984)</p>
	<p>Fuller, Robert R. "Characterizing Submicron Vesicles With Wavelength-Resolved Fluorescence in Flow Cytometry," University of Illinois, 05/13/1996.</p>
	<p>Ginther, O. J., "Sexual Behavior Following Introduction of a Stallion into a Group of Mares" Therio. Vol. 19 (6) June 1983</p>
	<p>Gombe, S. and Hansel, W. "Plasma Luteinizing Hormone (LH) and Progesterone Levels in Heifers on Restricted Energy Intakes." J. Anim. Sci. 37:728. 1973</p>
	<p>Goppert-Mayer, "Über Elementarakte mit zwei Quantensprungen Von Maria Copper –Mayer"</p>
	<p>Gottlinger et al., "Operation of a Flow Cytometer", Flow Cytometry and Cell Sorting, A. Radbruch (Ed.), 1992, pages 7-23.</p>
	<p>Graham, J. "Analysis of Stallion semen and its Relation to Fertility. ABSTRACT Complete article from Reproductive Technology Vol. 12 # 1 April 1996 now included in XYIDS000213</p>
	<p>Graham, J.K. and Hammerstedt, R.H.: "Differential Effects of Butylated Hydroxytoluene Analogs on Bull Sperm Subjected to Cold-Induced Membrane Stress," Cryobiology, 29:106-117 (1992)</p>
	<p>Graham, James K., "Effect of Cholesterol-Loaded Cyclodextrins in Semen Extenders", Proceedings of the 19th Technical Conference on Artificial Insemination &amp; Reproduction, 2003, pp. 91-95.</p>
	<p>Gravert, H. O., "Genetic Aspects of Early Calving." In: J.C. Taylor (Ed.) <u>The Early Calving of Heifers and Its Impact on Beef Production</u>. 59 (1975)</p>
	<p>Gregory, K. E., et al., "Characterization of Biological Types of Cattle – Cycle III: II Growth Rate and Puberty in Females" J. Anim. Sci. 49:461 (1979)</p>
	<p>Grimes, I. F. and T. B. Turner. "Early Weaning of Fall Born Calves II. Post Weaning Performance of Early and Normal Weaned Calves". I. Prod. Agric. 4:168 (1991)</p>
	<p>Hall, J. B., et al., "Effect of Age and Pattern of Gain on Induction of Puberty with a Progestin in Beef Heifers." J. Anim. Sci. 75:1606 (1997)</p>
	<p>Hamamatsu, "Technical Information, Optical Detector Selection: A Delicate Balancing Act", web page, <a href="http://www.optics.org/hamamatsu/photodiode.html">http://www.optics.org/hamamatsu/photodiode.html</a>, printed on 4/15/00, 6 pages total.</p>
	<p>Hamano, K., et al., "Gender Preselection in Cattle with Intracytoplasmically Injected, Flow Cytometrically Sorted Sperm Heads", Biology of Reproduction 60, p. 1194-1197 (1999)</p>
	<p>Hammerstedt, et al., "Cryopreservation of Mammalian Sperm: What We Ask Them to Survive," Journal of Andrology, 11:1:73-88 (1990)</p>
	<p>Harte, F. J. "System of Production of Beef From Once Calved Heifers." In: J.C. Taylor (Ed.) <u>The Early Calving of Heifers and its Impact on Beef Production</u>. 123 (1975)</p>
	<p>Hermesmeier, G. N., et al. "Effects of Prenatal Androgenization and Implantation on the Performance and Carcass Composition of Lactating Heifers in the Single-Calf Heifer System." The Professional Animal Scientist 15:173. 1999</p>
	<p>Herweijer, Hans. "High-Speed Photodamage Cell Selection Using Bromodeoxyuridine/Hoechst 33342 Photosensitized Cell Killing," 09/23/1987.</p>
	<p>Herzenberg, Leonard A. "Fluorescence-activated Cell Sorting," pages 108-117.</p>
	<p>Hilton, G. G., et al., "An Evaluation of Current and Alternative Systems for Quality Grading Carcasses of Mature Slaughter Cows." J. Anim. Sci. 76:2094. 1998</p>
	<p>Ho, L., et al., "Influence of Gender, Breed and Age on Maturity Characteristics of Sheep." J. Anim. Sci. 67:2460-2470. 1989</p>
	<p>Hohenboken, W. D. "Applications of sexed semen in cattle production." Therio. 52:1421. 1999</p>
	<p>Horan, Paul K. "Quantitative Single Cell Analysis and Sorting, Rapid Analysis and sorting of cells is emerging as an important new technology in research and medicine."</p>
	<p>IMV Technologies, Protocol of Bioxcell with Fresh Semen, 1 page, 2000</p>

	IMV Technologies, Protocol of Bioxccl with Frozen Semen, 2 pages, 2000
	Iwazumi, Y., et al., "Superovulation Using CIDR in Holstein Cows" J. of Reprod. Dev. Vol. 40 (3) 1994, pp259-66
	Jakubiczka, S. et al. "A Bovine Homologue of the Human TSPY Gene." Genomics. 1993, Vol 17, No. 3, pp 732-735
	Jarriage, R. "Age of Cows at First Calving in France." In: J.C. Taylor (Ed.) <u>The Early Calving of Heifers and its Impact on Beef Production</u> . 10. (1975)
	Johnson, L.A., "Gender Preselection in Humans? Flow Cytometric Separation of X and Y Spermatozoa for the Prevention of X-Linked Diseases" Human Reproduction vol.8 no.10, p. 1733-1739 (1993)
	Johnson, L.A., "Successful Gender Preselection in Farm Animals", Agricultural Biotechnology, p. 439-452. (1998)
	Joseph, R. L. "Carcass composition and meat quality in once calved heifers." In: J.C. Taylor (Ed.) <u>The Early Calving of Heifers and its Impact on Beef Production</u> . 143. (1975)
	Joseph, R. L. and J. P. Crowley. "Meat Quality of Once-Calved Heifers." Irish J. of Agric. Research 10:281. (1971)
	Karabinus, et al., "Effects of Egg Yolk-Citrate and Milk Extenders on Chromatin Structured Viability of Cryopreserved Bull Sperm", Journal of Dairy Science, Vol. 74, No. 11, p. 3836-3848. (1999)
	Keeling, P. "A Modeling Study of Once-Bred Heifer Beef Production." Proceedings of the New Zealand Society of Animal Production. 51. (1991)
	Kinder, J. E., et al. "Endocrine Basis for Puberty in Heifers and Ewes." J. Repro. and Fertility, p. 393. (1995)
	Kinder, J. E., et al., "Endocrine Regulation of Puberty in Cows and Ewes." J. Repro. and Fertility, Suppl. 34:167. (1987)
	Kinoshita, Shuichi. "Spectroscopic Properties of Fluorescein in Living Lymphocytes," Osaka University 08/07/1986.
	Klindt, J. and J. D. Crouse. "Effect of Ovariectomy and Ovariectomy with Ovarian Autotransplantation on Feedlot Performance and Carcass Characteristics of Heifers." J. Anim. Sci. 68:3481. (1990)
	Klosterman, E. W. and C. F. Parker. "Effect of Size, Breed and Sex Upon Feed Efficiency in Beef Cattle." North Central Regional Research Publication 235, Ohio Agric. Research and Development Center 1090:3. (1976)
	Kniffen, D. M., et al., "Effects of Long-Term Estrogen Implants in Beef Heifers." J. Anim. Sci. 77:2886. (1999)
	Kobata, Akira, "Structures and Functions of the Sugar Chains of Human Chorionic Gonadotropin", in <u>Glycoprotein Hormones</u> Chin, W.W. and Boime, I., eds. Serono Symposia, Norwell, MA. p. 19-20. 1990
	Koch, R. M., et al., "Characterization of Biological Types of Cattle -Cycle-II .3." Carcass Composition, Quality and Palatability. J. Anim. Sci. 49:448. (1919)
	Kommisrud E., et al. "Comparison of Two Processing Systems for Bull Semen with Regard to Post-Thaw Motility and Nonreturn Rates." Theriogenology, Vol. 45, 1996, pp 1515-1521
	Laster, D. B., "Factors Affecting Dystocia and Effects of Dystocia on Subsequent Reproduction in Beef-Cattle." J. Anim. Sci. 36:695. (1973)
	Lightwave Electronics, "Xcyte," <a href="http://www.LightwaveElectronics.com">www.LightwaveElectronics.com</a>
	Liu, Z, et al. "Survival of Bull Sperm Frozen at Different rates in Media Varying in Osmolarity." Cryobiology, Vol. 27, 1998, pp 219-230
	Lu, K. H. et al., "In Vitro Fertilization of Bovine Oocytes with Flow-Cytometrically Sorted and Unsorted Sperm from Different Bulls" Therio. abstr.
	Lu, K. H., et al., "In Vitro Fertilization with Flow-Cytometrically-Sorted Bovine Sperm", Therio 52, p. 1393-1405. (1999)
	Lynch, I. M., et al., "Influence of timing of gain on growth and reproductive performance of beef replacement heifers." J. Anim. Sci. 75:1715. (1997)

	Manni, Jeff. "To-Photon Excitation Expands the Capabilities of Laser-Scanning Microscopy,"
	Manning, S.T., et al., "Development of Hysteroscopic Insemination of the Uterine Tube in the Mare", Proceedings of the Annual Meeting of the Society for Theriogenology, 1998, p. 84-85.
	Martin, A. H., et al., "Characteristics of Youthful Beef Carcasses in Relation to Weight, Age and Sex. III. Meat Quality Attributes." Canadian J. Anim. Sci. 51:305. (1971)
	Martin, L. C., et al., "Genetic-effects on Beef Heifer Puberty and Subsequent Reproduction." J. Anim. Sci. 70:4006. (1992)
	Martinez, E. A., et al., "Successful Low-Dose Insemination by a Fiberoptic Endoscope Technique in the Sow ", Proceedings Annual Conference of the International Embryo Transfer Society, Netherlands, Therio. Vol. 53 p. 201, January 2000
	Matulis, R. J., "Growth and carcass characteristics of cull cows after different times-on-feed." J. Anim. Sci. 65:669. (1987)
	Mauleon, P. "Recent research related to the physiology of puberty." In: J.C. Taylor (ed.) <u>The Early Calving of Heifers and its Impact on Beef Production</u> . (1975)
	Maxwell, W. M. C., et al., "Viability and Membrane Integrity of Spermatocytes after Dilution and Flow Cytometric Sorting in the Presence or Absence of Seminal Plasma." Reprod. Fertil. Dev. 8:1165-78. (1997)
	McCormick, R. J. "The Flexibility of the Collagen Compartment of Muscle." Meat Sci. 36:79. (1994)
	McLeod, John H., "The Axicon: A New type of Optical Element", Journal of the Optical Society of America, Vol. 44 No. 8, August 1954, Eastman Kodak Company, Hawk-Eye Works, Rochester, New York.
	Meilgaard, M., et al., "Sensor Evaluation Techniques." CRC Press Inc., Boca Raton, FL. (1991)
	Melamed et al, "An Historical Review of the Development of Flow Cytometers and Sorters", 1979, pp. 3-9
	Mendes Jr., J.O.B. "Effect of heparin on cleavage rates and embryo production with four bovine sperm preparation protocols" Theriogenology 60 (2003) 331-340
	Menke, E. A Volume Activated Cell Sorter Journal of Histochemistry and Cytochemistry, 1977, vol. 25, No. 7, pp 796-803
	Metezeau P. et al. Improvement of Flow Cytometry Analysis and Sorting of Bull Spermatozoa by Optical Monitoring of Cell Orientation as Evaluated by DAN Specific Probing" Molecular Reproduction and Development, 1991, vol. 30 pp 250-257
	Moe, P. W., "Energetics of Body Tissue Mobilization." J. of Dairy Sci. 54:548.
	Moran, C., et al., "Puberty in Heifers -a Review." Animal Reproduction Sci. 18:167. (1989)
	Morgan, J. B., et al., "National Beef Tenderness Survey." J. Anim. Sci. 69: 3274. (1991)
	Morris, S. T., et al., "Biological efficiency: How relevant is this concept to beef cows in a mixed livestock seasonal pasture supply context?" Proceedings of the New Zealand Society of Animal Production 54:333. (1994)
	Moseley, W. M., et al., "Relationship of Growth and Puberty in Beef Heifers Fed Monensin" J. Anim. Sci. Vol. 55 No. 2 p. 357-62 (1982)
	Mount, D. E. "Fibrous and Non-fibrous Carbohydrate Supplementation to Ruminants Grazing Forage From Small Grain Crops." M.S. Thesis. Abstr. Colorado State University. (2000)
	Mullis, K. B. and F. A. Faloona, "Specific Synthesis of DNA in Vitro Via a Polymerase-Catalyzed Chain Reaction" Methods in Enzymology Vol. 155 p. 335-350 (1978)
	Myers, S. E., "Performance and Carcass Traits of Early-Weaned Steers Receiving Either a Pasture Growing Period or a Finishing Diet at Weaning." J. Anim. Sci. 77:311. (1999)
	Myers, S. E., et al., "Comparison of Three Weaning Ages on Cow-Calf Performance and Steer Carcass Traits." J. Anim. Sci. 77:323. (1999)
↓	Myers, S. E., et al., "Production Systems Comparing Early Weaning to Normal Weaning With or Without Creep Feeding for Beef Steers." J. Anim. Sci. 77:300. (1999)

	Nix, J. P., et al., "Serum Testosterone Concentration, Efficiency of Estrus Detection and Libido Expression in Androgenized Beef Cows." Therio. 49: 1195. (1998)
	NRC. "Nutrient Requirements for Beef Cattle." National Academy of Sci. National Research Council, Washington, DC. (1996)
	O'Brien, Justine K. et al., "Preliminary Developments of Sperm Sorting Technology in Non-human Primates", Biology of Reproduction 2001(Su.;l. 1) 64:158.
	Olive, M.D., "Detection of Enterotoxigenic Escherichia coli after Polymerase Chain Reaction Amplification with a Thermostable DNA Polymerase", J of Clinical Microbiology, Feb 1989 p. 261-265
	Olson, S.E. and Seidel, G. E. Jr., "Reduced Oxygen Tension and EDTA improve Bovine Zygote Development in a Chemically Defined Medium", J. of Anim. Sci. 78, pp. 152-157. (2000)
	Owen, J. B. "The Maiden Female-A Means of Increasing Meat Production." Proc. Symp. On the Use of Once Bred Heifers and Gilts. (1973)
	Ozhin F.V. et al. Artificial insemination of farm animals. Moscow, Izdatelstvo Selskokhozyastvennoi Literatury, 1961, pp. 350-361 and pp. 380-393
	Patterson, D. J., et al., "Estrus Synchronization with an Oral Progestogen Prior to Superovulation of Postpartum Beef Cows" Therio. 48, 1025-33 (1997)
	Penfold, L.M. et al., "Comparative Motility of X and Y Chromosome-Bearing Bovine Sperm Separated on the Basis of DNA Content", Mol. Reprod. And Develop. 1998, Vol 50, pp323-327.
	Petit, M. "Early Calving in Suckling Herds." In: J.C. Taylor (ed.) <u>The Early Calving of Heifers and its Impact on Beef Production</u> . p.157-176. (1975)
	Picket B.W., et al., "Livestock Production Science," 1998
	Pinkel et al., "Flow Chambers and Sample Handling", Flow Cytometry: Instrumentation and Data Analysis, Van Dilla et al. (Eds.), 1985, pp. 77-128
	Pinkel, D., et al., "Sex Preselection in Mammals? Separation of Sperm Bearing the Y and "O" Chromosomes in the Vole <i>Microtus Oregoni</i> ", Science Vol. 218 p. 904 (1982)
	Piston, D.W. "Three-dimensionally resolved NAD(P)H cellular metabolic redox imaging of the in situ cornea with two-photon excitation laser scanning microscopy," Journal of Microscopy, Vol. 178, 11/29/1994.
	Polge, E. J., "Historical Perspective of AI: Commercial Methods of Producing Sex Specific Semen, IVF Procedures", Proceedings of the 16th Technical Conference on Artificial Insemination & Reproduction, Cambridge, England, pp. 7-11. (1996)
	Polge, et al, "Revival of Spermatozoa After Vitrification and Dehydration at Low Temperatures," Nature, 164:666 (1994)
	Preza, C. et al, "Determination of Direction-Independent Optical Path-Length Distribution of Cells Using Rotational-Diversity Transmitted-Light Differential Interference Contrast (DIC) Images", Presented at the Multidimensional Microscopy: Image Acquisition and Processing V, p. 1-11 (1998)
	Prokofiev M.I. Regoulyatsia Razmnozhenia Selskokhozyastvennykh Zhivotnykh, Leningrad, NAOUKA Publishing House, 1983, pp. 181-195
	Pursel, et al, "Effect of Orvus ES Paste on Acrosome Morphology, Motility and Fertilizing Capacity of Frozen-Thawed Boar Sperm," Journal of Animal Science, 47:1:198-202 (1978)
	Purvis, H. T. and J. C. Whittier. "Effects of Ionophore Feeding and Anthelmintic Administration on Age and Weight at Puberty in Spring-Born Beef Heifers." J. Anim. Sci. 74:736-744. (1996)
	Randel, R. D. "Nutrition and Postpartum Rebreeding in Cattle." J. Anim. Sci. 68:853. (1990)
	Rathi, R. et al., "Evaluation of In Vitro Capacitation of Stallion Spermatozoa", Biology of Reproduction 2001, Vol.65, pp. 462-470
	Recktenwald, Diether. "Cell Separation Methods and Applications," New York 1997.
	Reiling, B.A., et al., "Effects of Prenatal Androgenization and Lactation on Adipose Tissue Metabolism in Finishing Single-Calf Heifers" J. Anim. Sci. Vol. 75 p. 1504-1512 (1997)



	Reiling, B.A., et al., "Effects of prenatal Androgenization, Melengestrol Acetate, and Synovex-H on Feedlot Performance, Carcass, and Sensory Traits of Once-Calved Heifers" J. Anim. Sci. Vol. 74 p. 2043-51 (199)
	Riggs, B.A. "Integration of Early Weaning and Use of Sexed Semen in a Single-Calf Heifer System to Increase Value of Non-Replacement Heifers" MS Thesis, Colorado State University, Spring 2000
	Romero-Arredondo, A. " Effects of Bovine Follicular Fluid on Maturation of Bovine Oocytes" Theriogenology 41: 383-394, 1994
	Romero-Arredondo, A. "Effects of Follicular Fluid during In Vitro Maturation of Bovine Oocytes on In Vitro Fertilization and Early Embryonic Development" Biology of Reproduction 55, 1012-1016 1996
	Romita, A. "Some Considerations on the Beef Situation in Italy." In: J.C. Taylor (ed.) <u>The Early Calving of Heifers and its Impact on Beef Production</u> . 23. (1975)
	Roux, M., et al., "Early Calving Heifers Versus Maiden Heifers for Beef-Production from Dairy herds. I. The Effects of Genotype (Friesian and Carloads x Friesian) and Two Feeding Levels in the Rearing Period on Growth and Carcass Quality." Livestock Prod. Sci. 16:1 (1987)
	Roy, J. H., "Rearing Dairy-Herd Replacements." Journal of the Society Of Dairy Technology 31:73-79 (1978)
	Rutter, L. M., et al., "Effect of Abomasal Infusion of Propionate on the GnRH-Induced Luteinizing Hormone Release in Prepuberal Heifers." J. Anim. Sci. 56:1167 (1983)
	Schiewe, M. C., et al., "Transferable Embryo Recovery Rates Following Different Insemination Schedules in Superovulated Beef Cattle" Therio. 28 (4) October 1997, pp. 395-406
	Schillo, K. K., et al, "Effects of Nutrition and Season on the Onset of Puberty in the Beef Heifer." J. Anim. Sci. 70:3994 (1992)
	Schnell, T. D., et al, "Performance, Carcass, and Palatability Traits for Cull Cows Fed High-Energy Concentrate Diets for 0, 14, 28, 42, or 56 days." J. Anim. Sci. 75:1195. (1997)
	Schoonmaker, J. P., et al., "Effects of Age at Weaning and Implant Strategy on Growth of Steer Calves." J. Anim. Sci. (Suppl. II) 76:71. (1998) abstr.
	Seidel, G. E. Jr. " Cryopreservation of Equine Embryos" Veterinary Cliniciis of North America: Equine Practice Vol. 12, Number 1, April 1996
	Seidel, G. E. Jr. " Sexing Bovine Sperm" The AABP Proceedings - Vol 34
	Seidel, G. E. Jr. "Sexing mammalian spermatozoa and embryos-state of the art Journal of Reproduction and Fertility Supp 54, 477-487 1999.
	Seidel, G. E. Jr et al., "Current Status of Sexing Mammalian Spermatozoa," Society for Reproduction and fertility, pp 733-743, 2002
	Seidel, G. E. Jr., "Commercializing Repreductive Biotechnology - The Approach used by XY, Inc.," Theriogenology, p. 5, 1999
	Seidel, G. E. Jr., et al, "Sexing Mammalian Sperm - Overview", Therio. 52: 1267-1272, (1999)
	Seidel, G. E. Jr., "Economics of Selecting for Sex: The Most Important Genetic Trait, Theriogenology 59, (2003), pp 585-598.
	Sell, R. S., et al., "Single-calf Heifer Profitability Compared to Other North Dakota Beef Production Systems." Department of Ag. Eco., North Dakota State University, Ag. Econ. Rpt. 20.
	Shabpareh, V. " Methods for Collecting and Maturing Equine Oocytes in Vitro " Theriogenology 40: 1161-1175, 1993
	Shackelford, S. D., et al, "Effects of Slaughter Age on Meat Tenderness and USDA Carcass Maturity Scores of Beef Females." J. Anim. Sci. 73:3304. (1995)
	Shapiro, Howard M. MD., PC. "Practical Flow Cytometry Third Edition," New York 1994.
	Sharpe, J.C., et al., "A New Optical Configuration for Flow Cytometric Sorting of Aspherical Cells" Horticulture and Food Research Institute of New Zealand Ltd., Hamilton, New Zealand (PNS) 11-02 1997
	ABSTRACT

	Sharpe, Johnathan, Thesis; "An Introduction of Flow Cytometry", Ch. 2-2.2, 1997
	Sharpe, Johnathan, Thesis; "Gender Preselection-Principle Scientific Options," Ch. 3.4-3.4.8, 1997
	Sharpe, Johnathan, Thesis; "Sperm Sexing using Flow Cytometry," Ch. 3.5-3.5.8, 1997
	Sharpe, Johnathan, Thesis; "Sperm Sexing-Method of Johnson et al," Ch. 3.6-4.3.4, 1997
	Shorthose, W. R. and P. V. Harris. "Effect of Animal Age on the Tenderness of Selected Beef Muscles." J. Food Sci. 55:1-. (1990)
	Silbermann, M., "Hormones and Cartilage. Cartilage: Development, Differentiation, and Growth." pp. 327-368. Academic Press, Inc. (1983)
	Simon, M., "The Effect of Management Option on the Performance of Pregnant Feedlot Heifers." M.S. Thesis. Kansas State University. (1983)
	Skogen-Hagenson, M. J. et al; "A High Efficiency Flow Cytometer," The Journal of Histochemistry and Cytochemistry, Vol. 25, No. 7, pp. 784-789, 1977, USA
	Smith, G. C., et al, "USDA Maturity Indexes and Palatability of Beef Rib Steaks." J. of Food Quality 11:1. (1988)
	Smith, G. C., et al., "Relationship of USDA Maturity Groups to Palatability of Cooked Beef." J. of Food Sci. 47:1100. (1982)
	Smith, R. L., et al, "Influence of Percent Egg Yolk during Cooling and Freezing on Survival of Bovine
	Solsberry G.U., Van-Denmark N.L., Theory and practice of artificial cow insemination in USA, Moscow, KOLOS Publishing House, 1966, p. 346
	Spectra Physics, The Solid State Laser Company, "Vangaurd 4 Watts of UV from a Quasi-CW, All Solid State Laser," <a href="http://www.splasers.com/products/isl_products/vangaurd.html">http://www.splasers.com/products/isl_products/vangaurd.html</a> three pages, printed 14 Nov 2002
	Spectra-Physics Products, "Fcbar" <a href="http://www.splasers.com/products/oem_products/ov_fcbar.html">http://www.splasers.com/products/oem_products/ov_fcbar.html</a> two pages printed 14 Nov 2002
	Spectra-Physics, The Solid State Laser Company, "Vanguard 2000-HMD 532, <a href="http://www.spectra-physics.com">www.spectra-physics.com</a>
	Spectra-Physics, The Solid State Laser Company, "Vanguard 350-HMD 355, <a href="http://www.spectra-physics.com">www.spectra-physics.com</a>
	Squires, E.L., "Procedures for Handling Frozen Equine Semen for Maximum Reproductive Efficiency", pp. 1, 39-41, 81-89
	Staigmiller, R.B. " Superovulation of Cattle with Equine Pituitary Extract and Porcine FSH" Theriogenology 37: 1091-1099 1992
	Stap J. Et al "Improving the Resolution of Cryopreserved X- and Y- Sperm During DNA Flow Cytometric Analysis with the Addition of Percoll to quench the Fluorescence of Dead Sperm: Academic Medical Center, University of Amsterdam (1998) Journal of Animal Science vol 76 1998, pp, 1896-1902
	Steel, N. L., "Cost Effectiveness of Utilizing Sexed-Semen in a Commercial Beef Cow Operation", MS Thesis, Colorado State University, Summer 1998
	Steinkamp: "Flow Cytometry" vol.55, no. 9, Sept. 1984 pp 1375-1400, New York Review of Scientific Instruments ABSTRACT ONLY
	Stellflug, J. N., "Plasma Estrogens in Periparturient Cow." Therio 10:269. (1978)
	Stevenson, J. S., et al., "Detection of Estrus by Visual Observation and Radiotelemetry in Peripubertal, Estrus-Synchronized Beef Heifers." J. Anim. Sci. 74:729. (1996)
	Story, C. E., et al., "Age of Calf at Weaning of Spring-Calving Beef Cows and the Effect on Cow and Calf Performance and Production Economics." J. Anim. Sci. 78:1403. (2000)
	Stovel R.T. A Means for Orienting Flat Cells in flow systems Biophysical Journal, 1978,vol.23,pp 1-5
	Swanson, E. W. "Future Research on Problems of Increasing Meat Production by Early Calving." In: J.C. Taylor (ed.) <u>The Early Calving of Heifers and its Impact on Beef Production.</u> (1975)

	Swenson, S. L., et al., "PRRS Virus Infection in Boars: Isolation From Semen and Effect on Semen Quality" from the 1995 Research Investment Report, Iowa State University, Veterinary Clinical Sciences, Iowa State University
	Tatum, J. D., et al., "Carcass Characteristics, Time on Feed and Cooked Beef Palatability Attributes." J. Anim. Sci. 50:833. (1980)
	Thun, Rico, et al., "Comparison of Biociphos-Plus® and TRIS-Egg Yolk Extender for Cryopreservation of Bull Semen; Theriogenology Symposium, December 1999, vol 52, #8
	Time-Bandwidth Products "GE – 100 – XHP", <a href="http://www.tbsp.com">www.tbsp.com</a> , 2 pages, Jan. 2002.
	Unruh, J. A. "Effects of Endogenous and Exogenous Growth-Promoting Compounds on Carcass Composition, Meat Quality and Meat Nutritional-Value." J. Anim. Sci. 62:1441. (1986)
	USDA "Official United States Standards for Grades of Carcass Beef." Agric, Marketing Serv., USDA, Washington, DC. (1997)
	Van Dilla, Martin, "Overview of Flow Cytometry: Instrumentation and Data Analysis", Flow Cytometry: Instrumentation and Data Analysis, Van Dilla et al. (Eds.), 1985, pp. 1-8
	Vincent, B.C., et al, "Carcass Characteristics and Meat Quality of Once-Calved Heifers." Canadian J. Anim. Sci. 71:311. (1991)
	Waggoner, A. W., et al., "Performance, Carcass, Cartilage Calcium, Sensory and Collagen Traits of Longissimus Muscles of Open Versus 30-month-old Heifers That Produced One Calf." J. Anim. Sci. 68:2380. 1990
	Watson, "Recent Developments and Concepts in the Cryopreservviation of Spermatozoa and the Assessment of Their Post-Thawing Function," Reprod. Fertil. Dev. 7:871-891 (1995) ABSTRACT
	Wheeler, T. L., et al., "Effect of Marbling Degree on Beef Palatability in Bos-taurus and Bos-indicus cattle." J. Anim. Sci. 72:3145. (1994)
	Wickersham, E. W. and L. H. Schultz. "Influence of Age at First Breeding on Growth, Reproduction, and Production of Well-Fed Holstein Heifers." J. Dairy Sci. 46:544. (1963)
	Wilhelm, K.M. et al, "Effects of Phosphatidylserine and Cholesterol Liposomes on the Viability, Motility, and Acrosomal Integrity of Stallion Spermatozoa Prior to and after Cryopreservation", Cryobiology 33:320, 1996.
	Wilson, D. E. et al., "Mammal Species of the World", Smithsonian Institution Press, 1993, 1206 pp.
	Wintzer Et al.: "Krankheiten des Pferdes Ein Leitfadens für Studium und Praxis," 1982, nParey, Berlin Hamburg XP002281450
	Zhou, Hongwei, et al. "Research on and Development of Flow Cell Sorting Apparatuses," Gazette of Biophysics, Vol 13, ed. 3, 1997
	Hamamatsu, "Photomultiplier Tubes," web page, <a href="http://www.optics.org/hamamatsu/pmt.html">http://www.optics.org/hamamatsu/pmt.html</a> . Printed on 4/15/00 4
	Hermesmeier, G.N., et al. "Effects of Lactation and Prenatal Androgenization on the Performance, Carcass Composition, and Longissimus muscle sensory characteristics of heifers in the single-calf heifer system. The Professional Animal Scientist 15: 14-23
	Seidel, G. E. Jr., "Fertility of Bulls on the Edge of the Dose-Response Curve for Numbers of Sperm per Inseminate"; Proceedings of the 17th Technical conference on Artificial Insemination & Reproduction, 1998
	Hollinshead, F.K. et al. "In vitro and in vivo assessment of functional capacity of flow cytometrically sorted ram spermatozoa after freezing and thawing." Reprod. Fertil. And Develop. 2003. Vol 15, pp 351-359
	Hollinshead F. K. et al. "Production of lambs of predetermined sex after the insemination of ewes with low numbers of frozen-thawed sorted X- or Y- Chromosome-bearing spermatozoa", Reprod. Fertil. And Develop. 2002, vol. 14, pp 503-508

	Hollinshead F. K. et al. "Sex-Sorting and Re-cryopreservation of Frozen-Thawed Ram Sperm for In Vitro Embryo Production" <i>Theriogenology</i> , Vol. 59. (2003) pp. 209
	Dhali et al. Vitrification of Buffalo ( <i>Bubalus Bubalis</i> ) Oocytes, <i>Embryo Theriogenology</i> Vol 53, pp 1295-1303 (2000)
	Borini et al. Cryopreservation of Mature Oocytes: The use of a trypsin inhibitor enhances fertilization and obtained embryos rates, <i>Fertil. Steril.</i> (1997), Vol 68 (Suppl.)
	INTENTIONALLY LEFT BLANK
	Hamamatsu Photonics K.K. Electronic Tube Center, Photomultiplier Tubes, Brochure Dec. 1997
	Johnson, L. A., et al. The Beltsville Sperm Sexing Technology: High-speed sperm sorting gives improved sperm output for In Vitro fertiliation and AI, <i>Journal of Animal Science</i> , Vol. 77, Suppl 2/J, Dairy Sci. Vol. 82, Suppl. 2/1999 pp 213-220
	Peters D., The LLNL high-speed sorter: Design features, operational characteristics, and bioical utility, <i>Cyometry</i> , 6:290-301 (1985)
	Rens W., et al Slit-scan flow cytometry for consistent high resdolution DNA analysis of X- and Y- chromosome bearing sperm, <i>Cytometry</i> 25:191-199 (1996)
	van Munster, E. B. Interferometry in flor to sort unstained X- and Y-Chromosome-Bearing Bull Spermatozoa, <i>Cytometry</i> 47:192-199 (2002)
	Scmid, R. L., et al. Effects of follicular fluid or progesterone on <i>in vitro</i> maturation of equine oocytes before intracytoplasmic sperm injection with non-sorted and sex-sorted spermatozoa, <i>Journal of Reproduction and Fertility</i> 56:519-525, 2000
	Brink, Z et al. A reliable procedure for superovulating cattle to obtain zygotes and early emryos for microinjection, <i>Theriogenology</i> Vol. 41, p 168, (1994)
	Spectra-Physics, The Solid State Laser Company, "Vanguard 350-HMD 355, User's Manual, December 2002
	Photon, Inc. Light Measuring Solutions, NanoScan for High-powered beam Applications, 2005
	Fluorescense Lifetime Systems, <a href="http://www.picoquant.com">www.picoquant.com</a> , 1/28/2005 pp 2
	NCI ETI Branch, Flow CytometryCore Laboratory, <a href="http://home.ncifcrf.gov/ccr/flowcore/ndyag.htm">http://home.ncifcrf.gov/ccr/flowcore/ndyag.htm</a> , pp 5, 5/11/2004
	NCI ETI Branch, Flow CytometryCore Laboratory, <a href="http://home.ncifcrf.gov/ccr/flowcore/lrll.htm">http://home.ncifcrf.gov/ccr/flowcore/lrll.htm</a> , pp 14, 5/11/2004
	Saacke, R.G., Can Spermatozoa with abnormal heads gain access to the ovum in artificially inseminated super- and single-ovulating cattle?, <i>Theriogenology</i> 50:117-128. 1998.
	Hawk, H.W., Gamete Transport in the Superovulated Cow. <i>Theriogenology</i> : January 1998 Vol. 29 No.1 pp.125-142
	Blecher, S.R., et al. A new approach to immunological sexing of sperm, <i>Theriogenology</i> , 59, pp. 1309-1321, 1999 Vol.
	Wheeler, M. B., et al. Application of sexed semen technology to in vitro embryo production in cattle, <i>Theriogenology</i> , Vol 65 (2006) 219-227
	Garverick, H. A., et al. mRNA and protein expression of P450 aromatase (AROM) and estrigen receptors (ER) $\alpha$ and $\beta$ during early development of bovine fetal ovaries; The society for the study of reproduction 38th annual meeting July 24-27, 2005; Abstract only
	Bodmer, M., et al., Fertility in heifers and cows after low does insemination with sex-sorted and non-sorted sperm under field conditions; <i>Theriogenology</i> , Vol 64, (2005) 1647-1655
↓	Schenk J. L., et al. Embryo production from superovulated cattle following insemination of sexed sperm, <i>Theriogenology</i> , 65 (2006) 299-307

↓	Garner, D. L., Flow cytometric sexing of mammalian sperm, Theriogenology, (2006) pp 15				
↓	Habermann F. A., et al., Validation of sperm sexing in the cattle (Bos taurus) by dual colour fluorescence in situ hybridization; J Anim Breed Genet. 2005 Apr; 122 Suppl 1:22-7 (Abstract only)				
↓	Johnson, L. A., Sexing mammalian sperm for production of offspring: the state-of-the-art; Animal Reproduction Science; 60-61 (2000) pp 93-107				
<table border="0"> <tr> <td>EXAMINER:</td> <td>DATE CONSIDERED</td> </tr> <tr> <td>/Rebecca Fritchman/</td> <td>10/07/2008</td> </tr> </table>		EXAMINER:	DATE CONSIDERED	/Rebecca Fritchman/	10/07/2008
EXAMINER:	DATE CONSIDERED				
/Rebecca Fritchman/	10/07/2008				
<p>EXAMINER: Please initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.</p>					



Express Mail No.: EV 666039207 US

---

IN THE UNITED STATES PATENT  
AND TRADEMARK OFFICE

---

Application Number: 10/524,793  
371(c) Date: October 20, 2005  
Applicants: Kenneth M. Evans  
Title: High Resolution Flow Cytometer  
TC/A.U:  
Examiner:  
Attorney Docket: XY-Hypodermic-USNP  
Customer No. 33549

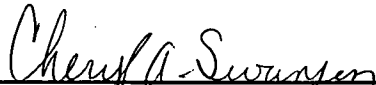
---

**CERTIFICATE OF EXPRESS MAILING**

I, Cheryl A. Swanson, hereby certify to the truth of the following items:

1. I am an employee of Santangelo Law Offices, P.C., 125 South Howes, Third Floor, Fort Collins, Colorado 80521.
2. I have this day deposited the attached Information Disclosure Statement Pursuant to 37 CFR §1.97(b)(3) and copies of Foreign References and Other Documents cited; Letter of Transmittal; and return post card with the United States Postal Service as Express Mail, postage prepaid, for mailing to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

Dated this 28<sup>th</sup> day of February, 2006.

  
\_\_\_\_\_  
Cheryl A. Swanson